

10/584033

AP20 Rec'd PCT/PTO 22 JUN 2006

PATENT COOPERATION TREATY

In Re Application No.: PCT/US2005/000095  
Filing Date: 1 April 2005  
Applicant: Cooper-Standard Automotive Inc.  
For: INDENTED TUBE FOR A HEAT EXCHANGER  
Attorney Docket: 60158-286

Mail Stop PCT  
Commissioner of Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

AMENDMENTS UNDER ARTICLE 34

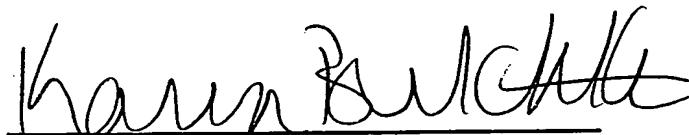
Dear Sir:

Claim 1 has been amended. Claims 2 and 3 correspond to original claims 7 and 5, respectively. Claim 4 corresponds to original claim 9 and has been amended. Claim 5 corresponds to original claims 10. Claims 6 and 7 are new. Claims 8, 9 and 10 correspond to original claims 15, 16 and 18, respectively, and have been amended. Claims 11 and 17 are new. Replacement sheets 6 and 7 replace original sheets 6 and 7.

Consideration is respectfully requested.

Respectfully submitted,

CARLSON, GASKEY & OLDS, P.C.



Karin H. Butchko - Agent  
Carlson, Gaskey & Olds, P.C.  
400 West Maple Road, Suite 350  
Birmingham, Michigan 48009  
Tel: (248) 988-8360  
Fax: (248) 988-8363

**CERTIFICATE OF MAILING BY "EXPRESS MAIL"**

I hereby certify that the attached document(s) and/or fee(s) are being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and are addressed to "Mail Stop PCT, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450" on this August 30, 2005 - Express Mail Label No. 236943571US.



CLAIMS

1. A method of forming a tube comprising the steps of:  
positioning the tube in a first position in a mold;  
then forming an indentation on the tube with the mold;  
then releasing the mold from the tube;  
then moving one of the mold and the tube to a second position relative to the  
other of the mold and the tube; and  
then forming another indentation on the tube with the mold.
- 10 2. The method as recited in claim 1 wherein the step of moving includes translating  
the tube relative to the mold.
- 15 3. The method as recited in claim 1 wherein the step of moving includes rotating  
the tube relative to the mold and translating the tube relative to the mold.
4. The method as recited in claim 3 wherein the step of rotating includes rotating  
the tube relative to the mold between approximately 5 to 10°.
- 20 5. The method as recited in claim 1 wherein the tube includes an end portion  
having a substantially circular cross-section.
6. The method as recited in claim 1 wherein the indentation is formed by crimping  
the tube.
- 25 7. The method as recited in claim 1 wherein the indentation is formed by stamping  
the tube.
8. A heat exchanger comprising:  
a plurality of tubes each including a body portion and a plurality of indentations;  
30 a valve that controls a flow of a first fluid into the plurality of tubes; and  
a shell portion surrounding the plurality of tubes.

9. The heat exchanger as recited in claim 8 wherein a second fluid flows through the shell, and the first fluid exchanges heat with the second fluid.

10. The heat exchanger as recited in claim 8 wherein the plurality of indentations 5 are substantially parallel to the flow of the first fluid through the plurality of tubes.

11. A method of forming a tube comprising the steps of:  
positioning the tube in a first position;  
then forming an indentation on the tube with a mold;  
10 then moving one of the tube and the mold relative to the other of the tube and the mold to form a groove; and  
then releasing the mold from the tube after the step of moving.

12. The method as recited in claim 11 further including the step of repeating the step 15 of forming an indentation.

13. The method as recited in claim 11 wherein the step of moving includes rotating the tube relative to the mold and translating the tube relative to the mold.

20 14. The method as recited in claim 13 wherein the step of rotating includes rotating the tube relative to the mold between approximately 5 to 10°.

15. The method as recited in claim 11 wherein the step of moving includes translating the tube relative to the mold.

25 16. The method as recited in claim 11 wherein the tube includes an end portion having a substantially circular cross-section.

17. The method as recited in claim 11 wherein the mold includes a roller that 30 engages the tube, and the step of moving the tube forms a groove on the tube as the roller engages the tube.